

Bimetal Thermometers Industrial Series, Model 52

WIKA Data Sheet TM 52.01

Applications

- Versatile thermometers for machine, tank, pipeline and apparatus construction
- Heating

Special Features

- Scale ranges from -30 °C to +500 °C
- Case and stem material stainless steel
- 5 different designs of connection
- Combination with many thermowell designs



Bimetal Thermometer Model A52.100

Description

This series of thermometers is designed for installation in pipes and tanks.

Versions with and without thermowell offer many possibilities for temperature measurement in liquid and gaseous media.

Use of the thermometers in potentially explosive atmospheres is possible without any Ex-specific marking in zones 1 and 2. (gases, ignition groups IIA, IIB, IIC)

Standard version

Temperature element

Bimetal helix

Nominal size in mm

25, 33, 40, 50, 63, 80, 100, 160

Design of connection

- S Standard (male thread connection)
 - 1 Plain stem (without thread)
 - 2 Male nut
 - 3 Union nut
 - 4 Compression fitting (sliding on stem)

Location of stem

A52.XXX centre back (axial)
R52.XXX bottom (radial)

Accuracy class

NS 63, 80, 100, 160: 1 per DIN EN 13 190
NS 25, 33, 40, 50: 2 per DIN EN 13 190

Working range

Normal: measuring range per DIN EN 13 190
Short time (24 h max.): scale range per DIN EN 13 190

Case, bezel ring, stem, process connection and spacer

Stainless steel
NS 33: plastic

Elbow behind the case

Aluminium, only with radial entry version

Dial

Aluminium, white, lettering black

Window

Instrument glass
NS 33: polycarbonate

Pointer

NS 25, 33, 40: aluminium, black
NS 50, 63, 89, 100, 160: aluminium, black, adjustable pointer

Pressure rating of stem

NS 25, 33, 40, 50: 6 bar maximum, static
NS 63, 80, 100, 160: 25 bar maximum, static

Ingress protection

NS 25, 33, 40: IP 54 per EN 60 529 / IEC 529
NS 50, 63, 80, 100, 160: IP 43 per EN 60 529 / IEC 529

Options

- Scale range °F, °C/°F (dual scale)
- Other scale ranges
- Other connections

Scale, measuring ranges ¹⁾, error limit per (DIN EN 13 190)

Scale graduation per WIKA standard

Scale range in °C	Measuring range in °C	Scale spacing		Error limit	
		up to NS 63 in °C	from NS 80 in °C	up to NS 50 ± °C	from NS 63 ± °C
-30 ... +50	-20 ... +40	1	1	2	1
-20 ... +60	-10 ... +50	1	1	2	1
0 ... 60	+10 ... +50	1	1	2	1
0 ... 80	+10 ... +70	1	1	2	1
0 ... 100	+10 ... +90	2	1	2	1
0 ... 120	+10 ... +110	2	1	4	2
0 ... 160	+20 ... +140	2	2	4	2
0 ... 200 ²⁾	+20 ... +180	5	2	4	2
0 ... 250 ²⁾	+30 ... +220	5	2	5	2.5
0 ... 300 ³⁾	+30 ... +270	5	2	-	5
0 ... 400 ³⁾	+50 ... +350	5	5	-	5
0 ... 500 ³⁾	+50 ... +450	5	5	-	5

1) The measuring range is indicated on the dial by two triangular marks.
Only within this range the stated limit of error is valid according to DIN EN 13 190.

2) Not with NS 33

3) Not with NS 25 up to NS 50

Models

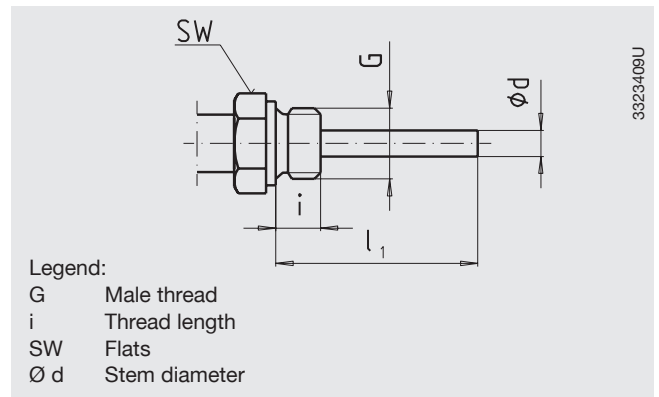
Nominal size	25	33	40	50	63	80	100	160
Design	S / 1				S / 1 / 2 / 3 / 4			
Model	A52.025	A52.033	A52.040	A52.050	A52.063	A52.080	A52.100	A52.160
					R52.063	R53.080	R52.100	R52.160

Design of connection

Design S, standard (male thread connection)

Standard stem lengths: $l_1 = 63, 100, 160, 200, 250$ mm

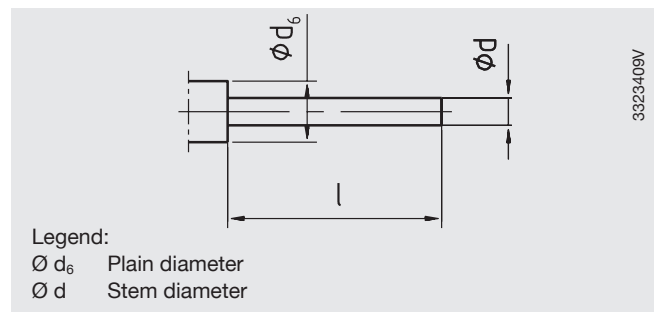
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
25, 33	M8 x 1.25	8	12	4
	G 1/8 B	8	17	4
	G 1/4 B	8	17	4
40, 50	M8 x 1.25	8	17	4
	G 1/8 B	8	17	4
	G 1/4 B	8	17	4
63, 80, 100, 160	G 1/4 B	8	17	6, 8
	G 1/2 B	14	27	6; 8
	M18 x 1.5	12	24	6; 8
	1/2 NPT	19	22	6; 8



Design 1, plain stem (without thread)

Standard stem lengths: $l = 45, 63, 100, 140, 160, 200, 240, 290$ mm

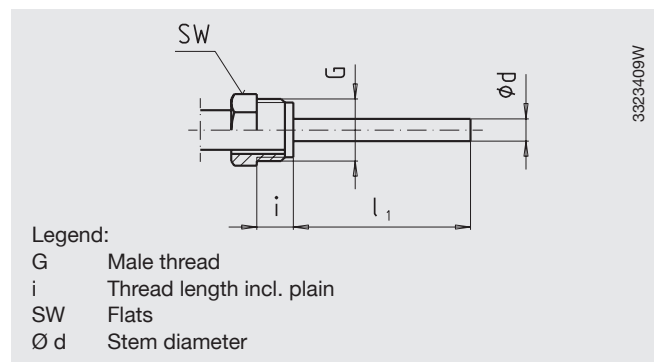
Nominal size NS	Dimensions in mm	
	d_6	$\varnothing d$
25, 33	8	4
40, 50	12	4
63, 80, 100, 160	18	6; 8



Design 2, male nut

Standard stem lengths: $l_1 = 80, 140, 180, 230$ mm

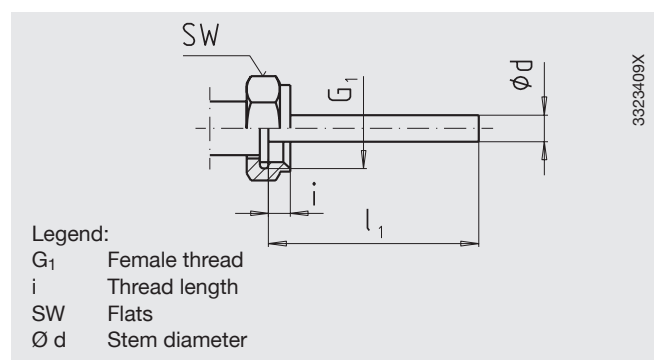
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
63, 80, 100, 160	G 1/2 B	20	27	6; 8
	M18 x 1.5	12	24	6; 8



Design 3, union nut

Standard stem lengths: $l_1 = 89, 126, 186, 226, 276$ mm

Nominal size NS	Process connection		Dimensions in mm	
	G_1	i	SW	$\varnothing d$
63, 80, 100, 160	G 1/2	8.5	27	6; 8
	G 3/4	10.5	32	6; 8

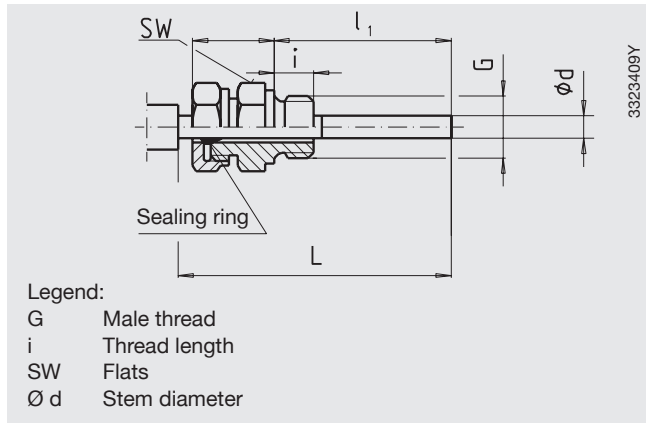


Design 4, Compression fitting (sliding on stem)

Stem length l_1 : variable

Length $L = l_1 + 40$ mm

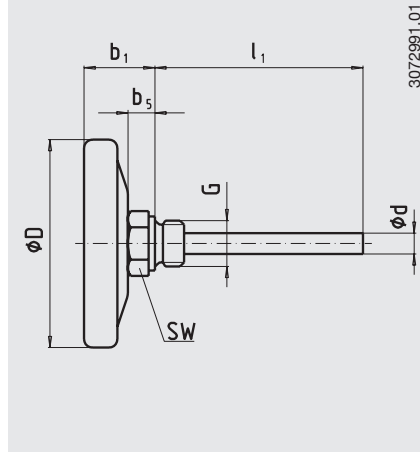
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
63, 80, 100, 160	G 1/4 B	8	17	6; 8
	G 1/2 B	14	27	6; 8
	M18 x 1.5	12	24	6; 8
	1/2 NPT	19	22	6; 8
	G 3/4 B	14	27	6; 8
	3/4 NPT	20	30	6; 8



Location of stem

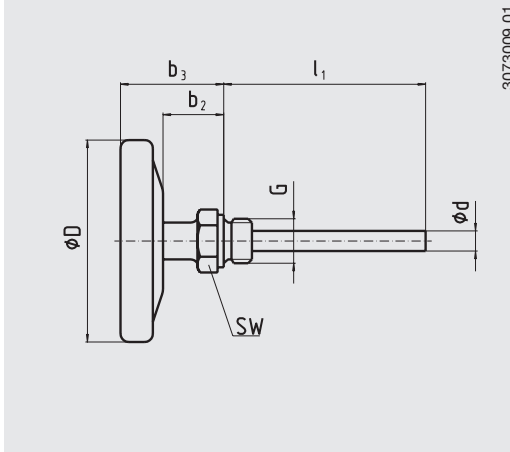
Centre back mount

(up to 250 °C)

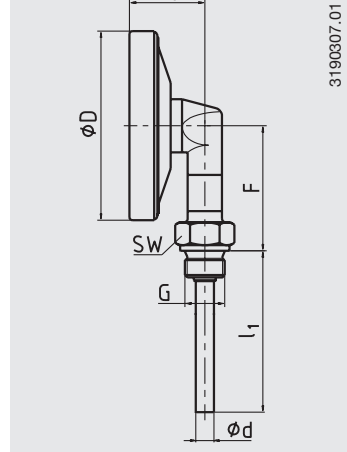


Centre back mount with spacer

(from 300 °C or on request)



Lower mount



NS	Dimensions in mm						Weight in kg			
	b_1	b_2	b_3	b_4	b_5	$\varnothing D$	F	R	RD	U
25	15	-	-	-	2	25	-	0.035	-	-
33	15	-	-	-	2	33	-	0.040	-	-
40	21	-	-	-	8	40	-	0.050	-	-
50	21	-	-	-	8	50	-	0.060	-	-
63	29	30 ¹⁾	46	34	13	63	47	0.160	0.200	0.220
80	30	30 ¹⁾	47	36	13	80	56	0.200	0.240	0.270
100	35	30 ¹⁾	52	40	13	100	66	0.250	0.290	0.330
160	39	30 ¹⁾	57	42.5	13	160	96	0.450	0.490	0.560

1) From 300 °C or on request

R Centre back mount
RD Centre back mount with spacer
U Lower mount

Modifications may take place and materials specified may be replaced by others without prior notice. Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.



WIKAI Alexander Wiegand GmbH & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. (+49) 9372/132-0
Fax (+49) 9372/132-406
E-mail info@wika.de
www.wika.de